

AMENDMENT UNDER 37 C.F.R. § 1.116  
U.S. Application No.: 09/891,655  
Attorney Docket No.: Q51805

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A metal oxide powder except  $\alpha$ -alumina, comprising polyhedral particles having at least 6 planes each, a number average particle size of ~~40  $\mu\text{m}$  or less~~ 0.1 to 40  $\mu\text{m}$  and a  $D_{90}/D_{10}$  ratio of 5 or less where  $D_{10}$  and  $D_{90}$  are particle sizes at 10% and 90% accumulation, respectively from the smallest particle size side in a cumulative particle size curve of the particles, and

wherein a ratio of agglomerated particle size to a primary particle size is from 1 to 6, and the metal oxide is a metal oxide of a metal element selected from the group consisting of the metal elements of the Group Ib, II, III, V, VI, VII and VIII of the Periodic Table.

2-3. (canceled).

4. (previously presented): The metal oxide powder according to claim 1, wherein said ratio of a primary particle size to an agglomerated particle size is from 1 to 3.

5. (canceled).

6. (currently amended): The metal oxide powder according to any one of claims 1 ~~or~~ and 4, wherein said metal oxide is a simple metal oxide titanium.

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7. (currently amended): The metal oxide powder according to any one of claims 1 orand 4, wherein said metal oxide is a simple metal oxide of a metal selected from the group consisting of magnesium, zirconium and iron.

8. (currently amended): The metal oxide powder according to any one of claims 1 orand 4, wherein said metal oxide is a simple metal oxide of cerium.

9. (currently amended): The metal oxide powder according to any one of claims 1 orand 4, wherein said metal oxide is a simple metal oxide of a metal selected from the group consisting of indium and tin.

10. (currently amended): The metal oxide powder according to any one of claims 1 orand 4, wherein said metal oxide is a simple metal oxide of a metal selected from the group consisting of zinc, cadmium, gallium, germanium, niobium, tantalum, antimony, bismuth, chromium, molybdenum, manganese, cobalt, nickel and uranium.

11. (previously presented): A rutile type titanium oxide powder comprising polyhedral particles each having at least 8 planes, a number average particle size of from 0.1 to 300  $\mu\text{m}$ , a  $D_{90}/D_{10}$  ratio of 5 or less where  $D_{10}$  and  $D_{90}$  are particle sizes at 10% and 90% accumulation, respectively from the smallest particle size side in a cumulative particle size curve of the particles, and a ratio of agglomerated particle size to primary particle size of the particles is from 1 to 6.

12. (original): The rutile type titanium oxide powder according to claim 11, wherein a ratio of an agglomerated particle size to a primary particle size is from 1 to 2, and a BET specific surface area is from 0.1 to 10  $\text{m}^2/\text{g}$ .

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13. (previously presented): A method for producing a calcined metal oxide powder having a narrow particle size distribution except  $\alpha$ -alumina, comprising calcining a metal oxide powder or a metal oxide precursor powder in the presence or absence of a seed crystal in an atmosphere containing at least one gas selected from the group consisting of (1) a hydrogen halide, (2) a component prepared from a molecular halogen and steam and (3) a molecular halogen.

14. (original): The method according to claim 13, wherein said calcination is carried out in the presence of a seed crystal.

15. (original): The method according to claim 13 or 14, wherein said gas contained in said atmosphere gas is a hydrogen halide.

16. (original): The method according to claim 15, wherein said hydrogen halide is hydrogen chloride or hydrogen bromide.

17. (original): The method according to claim 15, wherein said hydrogen halide is hydrogen fluoride.

18. (original): The method according to claim 15, wherein a concentration of said hydrogen halide is at least 1 vol. % of said atmospheric gas.

19. (original): The method according to claim 13 or 14, wherein said gas contained in said atmosphere gas is said component prepared from a molecular halogen and steam.

20. (original): The method according to claim 19, wherein said molecular halogen is chlorine or bromine.

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21. (original): The method according to claim 19, wherein said molecular halogen is fluorine.

22. (original): The method according to claim 19, wherein said component is prepared from at least 1 vol. % of said molecular halogen and at least 0.1 vol. % of steam, both based on said atmosphere gas.

23. (original): The method according to claim 13 or 14, wherein said gas contained in said atmosphere gas is a molecular halogen which is chlorine or bromine, and a concentration of said molecular halogen in said atmosphere gas is at least 1 vol. %.

24. (original): The method according to claim 13, wherein said metal oxide powder or metal oxide precursor powder has a bulk density of 40 % or less of a theoretical value.

25. (original): The method according to claim 14, wherein said seed crystal had a bulk density of 40 % or less of a theoretical value.

26. (original): The method according to claim 13 or 14, wherein said metal oxide having a narrow particle size distribution except  $\alpha$ -alumina is formed on a site where said metal oxide powder or metal oxide precursor powder to be calcined is present.

27. (original): The method according to claim 13 or 14, wherein said metal oxide powder or metal oxide precursor powder to be calcined is a metal oxide powder or metal oxide precursor powder of a metal element selected from the group consisting of the metal elements of the Groups Ib, II, III, IV, V, VI, VII and VIII of the Periodic Table.

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28 (previously presented): The method according to claim 13 or 14, wherein said metal oxide powder or metal oxide precursor powder is a metal oxide powder or metal oxide precursor powder of a metal selected from the group consisting of magnesium, titanium, and iron.

29-30. (canceled).

31. (original): The method according to claim 13 or 14, wherein said metal oxide powder or metal oxide precursor powder is a metal oxide powder or metal oxide precursor powder of a metal selected from the group consisting of zinc, cadmium, gallium, germanium, niobium; tantalum, antimony, bismuth, chromium, molybdenum, manganese, cobalt, nickel and uranium.

32. (previously presented): A method for producing a calcined metal oxide powder having a narrow particle size distribution except  $\alpha$ -alumina, comprising calcining a metal oxide powder or a metal oxide precursor powder in the presence or absence of a seed crystal in an atmosphere containing at least one gas selected from the group consisting of (1) a hydrogen halide, and (2) a component prepared from a molecular halogen and steam.